

Three-dimensional crystals of adaptive knots

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Starting with Gauss and Kelvin, knots in fields were postulated to behave like particles, but experimentally they we

Dzyaloshinskii–Moriya term in models of mag-



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Knot all that it seems

Optical micrograph of a self-assembled lattice of knots in a chiral liquid crystal

Although for some, knots are merely a frustration caused by poorly tied shoelaces, interest in knots in physical systems spans many disciplines, including fluid and optical vortices, Skyrmon states, liquid crystals, excitable media, polymers, proteins, DNA, and even chemical molecules. Tai and Smalyukh describe the creation of localized knotted structures in cholesteric liquid crystals using electric fields (see the Perspective by Alexander). The knots are topologically distinct from the host medium and diffuse and organize like colloidal particles, forming regular crystalline arrangements.

Science, this issue p. 1449; see also p. 1377

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